

REMARKS

I. Status of the Application

Claims 25-27, 29-38, 40-43, and 47-52 are pending in the application. Claims 1-24, 28, 39, and 44-46 have been previously cancelled without prejudice to the filing of any appropriate continuation applications.

Claims 25, 27, 29, 32-37, 40, 47-48, and 50-52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky et al. US 4,141,783 in view of Badertscher and further in view of Fabre US 4,689,237.

Claim 49 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claim 25, and further in view of Den Hollander US 5,558,819.

Claims 26, 30, and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claim 25, and further in view of Rubens EP 0 438 783.

Claims 38 and 41 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claims 37 and 40, and further in view of Passey US 3,564,723.

Claim 42 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher, Fabre, and Passey applied to claim 41, and further in view of Hovmand US 4,062,641.

Claim 43 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claim 25, and further in view of Johnston US 2,401,077.

II. The Pending Claims Are Non-Obvious over the Cited Art

At page 2, section 3 of the instant Office Action, claims 25, 27, 29, 32-37, 40, 47-48, and 50-52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and further in view of Fabre. At page 7, section 4 of the instant Office Action, claim 49 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claim 25, and further in view of Den Hollander. At page 8, section 5 of the instant Office Action, claims 26, 30 and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claim 25, and further in view of Rubens. At page 9, section 6 of the instant Office Action, claims 38 and 41 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claims 37 and 40, and further in view of Passey. At page 10, section 7 of the instant Office Action, claim 42 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher, Fabre, and Passey as applied to claim 41, and further in view of Hovmand. At page 10, section 8 of the instant Office Action, claim 43 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Pisecky in view of Badertscher and Fabre as applied to claim 25, and further in view of Johnston. Applicant respectfully traverses these rejections.

A. The Combination of Pisecky, Badertscher, and Fabre Fails to Render the Claimed Invention Obvious.

In the office action dated November 25, 2008, the Examiner relied on the description in Pisecky at col. 6 lines 38-40 and col. 6 lines 30-31 with respect to Figure 1 that Pisecky teaches

substantially atomizing the liquid form (col.6, lines 38-40) by admixing steam in a mixing chamber (col. 6, lines 30-31).

The Examiner has not relied on that description in the present office action dated June 23, 2009 and so applicant respectfully submits that Figure 1 and the passages cited by the Examiner do not teach substantially atomizing the liquid form by admixing steam in a mixing chamber, even though steam and milk concentrate are mixed together in annular chamber 18.

In the present office action, the Examiner has relied on a new basis in Pisecky for rejecting the claims, namely col. 8 lines 30-33 and lines 39-41, the compartments 104 and 105 of Figure 2, and col. 8 lines 42-63 to support the conclusion that “milk is substantially atomized upon being admixed with steam in the mixing chamber 104.” However, Figure 2 and the description related thereto suffers the same lack of teaching as Figure 1 and the discussion related thereto previously relied on by the Examiner.

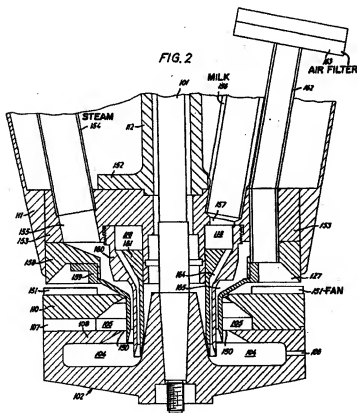
Since the citations relied on by the Examiner *do not* mention atomization, the Examiner is relying upon inherency to conclude that

[o]ne recognizes that the admixing of liquid with steam and the atomization of the liquid all occurs in one chamber and that is, supply compartment 104. (Emphasis added).

In order for an inherency argument to succeed, “. . . the missing descriptive material is ‘necessarily present,’ not merely probably or possibly present, in the prior art.” *In re Robertson*, 169 F.3d 743,745 (Fed. Cir. 1999) (discussing the standard for when a reference inherently teaches a claim limitation). Applicant respectfully submits that the Examiner’s conclusion of atomization within compartment 104 is not supported by the factual evidence of record. It is indisputable that Figure 2 and the passages of Pisecky relied on by the Examiner in the present office action do not expressly teach that atomization takes place within compartment 104. To the extent that the Examiner disagrees, applicant respectfully requests the Examiner to identify in Pisecky where atomization within compartment 104 is discussed.

Instead, the Examiner makes the unsupported leap that “[o]ne recognizes that the admixing of liquid with steam *and the atomization of the liquid* all occurs in one chamber and that is, supply compartment 104.” (Emphasis added.) In order for the Examiner to make this leap, the “missing descriptive material,” i.e. atomization within the compartment 104, must be “‘necessarily present,’ not merely probably or possibly present.”

The record evidence suggests that atomization does not occur in compartment 104 and there is no record evidence upon which one of skill would conclude that atomization occurs in compartment 104, although both steam and the liquid are introduced into compartment 104. Instead, Pisecky is crystal clear that atomization takes place using an atomization wheel which is downstream of compartment 104 and that the steam is used to carry away liberated gases and liquid and also heat the liquid.



As shown in Figure 2 above, milk and steam are introduced into compartment 104 via duct 164 and 165 respectively. The operation of Figure 2 is described as follows:

From here the liquid reaches, via annular duct 164 formed by the guide walls 160 and 161, the part of compartment 104 adjacent to the center of the atomizer wheel.

At the same time dry, saturated steam is fed through pipe 154 via bore 155 to an annular duct 165

When the liquid from duct 164 reaches down into the inner part of compartment 104 a strong degasification and steam generation takes place from *the liquid while it, under strong turbulence, is accelerated by the sudden contact with the rotating atomizer wheel.* While the liquid subsequently flows towards the ejection apertures 106, the gas and steam generated will be rapidly carried away by the flow of steam from duct 165 so that the risk of gas being again taken up *into the liquid* is significantly reduced. **Beyond this, the flow of steam from duct 165 is of relevance for ensuring that the requisite temperature is imparted to the liquid just at the critical point where it first comes into contact with the rotating wheel.**

Pisecky makes clear that the *liquid* is accelerated by sudden contact with the rotating atomizer wheel and that the *liquid* is at a requisite temperature at the critical point where *it, i.e. the liquid*, first comes into contact with the rotating wheel. After reading Pisecky, one of skill would understand that the liquid is not atomized in compartment 104 even though the liquid comes into contact with steam. This is plain as Pisecky makes clear that a *liquid* is introduced into compartment 104 and a *liquid* exits compartment 104 *to be atomized by the rotating wheel.* Further, Pisecky makes clear that the purpose of the steam is to carry away liberated gases and steam and to heat the liquid to the requisite temperature at the *critical point* just before the liquid hits the rotating wheel, *and whereupon the liquid is then atomized.* Pisecky describes the steam as performing certain functions unrelated to atomization, and certainly does not describe atomization. The Examiner has presented no evidence that atomization takes place in the compartment 104. Pisecky's plain description teaches just the opposite or at the very least is

insufficient for the Examiner to conclude that substantial atomization necessarily happens in compartment 104. This is further supported by common sense as Pisecky uses an atomizer to atomize.

Applicants' position with respect to Figure 2 is similar to that with respect to Figure 1 advanced in the last response and deemed sufficient to overcome the Examiner's rejection. In fact, Pisecky generally teaches at col. 2 line 62 to col. 3 line 13 with respect to the embodiments described that degasification of air from the liquid takes place ***and then the liquid is atomized***. Therefore, according to Pisecky, degasification does not mean that atomization of the liquid occurs.

The present invention aims at more effectively obviating the disadvantages mentioned in the foregoing which are due to the air content or air inclusion in the liquid to be spray dried by employing a rotating atomizer wheel and, according to the invention, this is achieved by imparting to the liquid such a temperature, that in the very atomizer wheel, a strong degasification and possibly boiling take place and by the liberated gas being removed prior to atomization.

By operating with such a temperature so that a strong degasification takes place, which generally means a temperature that lies on or close to the boiling point at the existing pressure, it is possible to remove most of the air content of the liquid, however, in order to achieve the desired result it is necessary for this degasification to take place ***during the proper introduction of the liquid into the atomizer wheel shortly before the atomization, as well as that the gas generated has to be removed prior to the atomization as otherwise the risk exists that the liquid once more takes up air before atomization.*** (Emphasis added.)

Since degasification does not atomize the liquid, since liquid is introduced into the atomizer and since the atomizer is the only mechanism described by Pisecky for atomizing the liquid, one of skill would not understand that substantial atomization occurs when the liquid and steam are introduced into compartment 104. The Examiner has presented no evidence to the contrary to contradict the plain teaching of Pisecky.

At page 11 paragraph 9 of the office action, the Examiner states that “[w]hile Johnston uses an atomizer to atomize milk and steam (page 3, left column, lines 17-22) result in additional atomization of the milk due to the transfer of heat from steam to milk without affecting its physical characteristics (page 3, left column, lines 28-32).” As with Pisecky, the Examiner lacks sufficient factual basis to conclude that one would recognize that substantial atomization takes place in Johnston simply by mixing milk with steam. This is supported by Johnston’s separate use of an atomizer to atomize.

At page 12 of the office action, the Examiner recognizes that each of Badertscher and Faber fails to teach atomizing within a mixing chamber. Each of Badertscher and Faber, therefore, fails to remedy the deficiencies of Pisecky.

For at least the foregoing reasons, the combined disclosures of the cited references fail to teach or suggest the step in independent claim 25 of substantially atomizing the product in liquid form by admixing steam in a mixing chamber heated by the steam so as to kill microorganisms and produce a pasteurized or sterilized product. Accordingly, the Examiner has failed to present a prima facie case of obviousness. Accordingly, applicant respectfully requests reconsideration and allowance of claims 25, 27, 29, 32-37, 40, 47-48, and 50-52.

B. The Remaining References Fail To Render The Claimed Invention Obvious

The Examiner recognizes that none of the remaining references of Den Hollander, Rubens, Hovmand or Passey, alone or in combination, cure the deficiencies of the references discussed above, as they do not teach atomizing within a mixing chamber.

For at least the foregoing reasons, the combination of cited references fails to present a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and allowance of claims 26, 30, 31, 38, 41-43, and 49.

III. Conclusion

Having addressed all outstanding issues, Applicant respectfully requests reconsideration and allowance of the present application. To the extent the Examiner believes that it would facilitate allowance of the case, the Examiner is requested to telephone the undersigned at the number below. The Commissioner is hereby authorized to charge any additional fees or credit overpayment to Deposit Account No. 19-0733.

Respectfully submitted,

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